

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1. (Currently Amended) A system, comprising:

a chamber configured to process one or more wafers for the fabrication of microelectronic devices;

a plurality of reservoirs serially coupled to the chamber via a plurality of intervening pipes, wherein the system is adapted to transport a process fluid used to treat the wafers from the plurality of reservoirs to a fluid inlet of the chamber, and wherein the fluid inlet is configured to dispense the process fluid on the one or more wafers;

a first set of one or more devices adapted to maintain the process fluid supplied to the chamber within a first temperature range; and

a second set of one or more additional devices adapted to maintain the process fluid residing in a first set of the plurality of reservoirs within a second temperature range distinct from lower than the first temperature range, wherein; and

a secondthird set of the plurality of reservoirs are used one or more devices adapted to maintain the process fluid residing thereinin a second set of the plurality of reservoirs within a third temperature range distinct from lower than the first and second temperature ranges, wherein the minimum temperature of the third temperature range is higher than an ambient temperature of an environment surrounding the second set of the plurality of reservoirs.

2. (Original) The system of claim 1, wherein the chamber is configured to conduct an electroless deposition process.

3. (Previously Presented) The system of claim 1, wherein the system is further adapted to transport the process fluid from the chamber to one or more of the plurality of reservoirs.

4. (Previously Presented) The system of claim 1, wherein the system is further adapted to circulate the process fluid between at least two of the plurality of reservoirs.

5. – 7. (Canceled)

8. (Previously Presented) The system of claim 1, wherein the third temperature range comprises temperatures between approximately 42° C and approximately 50° C.

9. (Previously Presented) The system of claim 1, wherein the second temperature range comprises temperatures between approximately 50° C and approximately 70° C.

10. (Previously Presented) The system of claim 1, wherein the first temperature range comprises temperatures between approximately 70° C and approximately 110° C.

11. (Canceled)

12. (Original) The system of claim 1, further comprising one or more additional process chambers coupled to at least one of the plurality of reservoirs.

13. (Currently Amended) A system, comprising:

a chamber configured to process one or more wafers for the fabrication of microelectronic devices;

a plurality of tanks serially coupled to the chamber and adapted to store a process fluid used to treat the wafers, wherein the chamber comprises a fluid inlet configured to:

receive the process fluid from at least one of the plurality of tanks; and

supply the process fluid to the one or more wafers; and

a plurality of temperature controllers positioned within the system such that the chamber and the plurality of tanks are characterized into at least three different zones based upon adaptations of the temperature controllers to maintain the process fluid within distinct temperature ranges in the respective zones while processing the wafers; and

a plurality of volume sensors positioned within the plurality of tanks such that the chamber and the plurality of tanks are further characterized into the at least three different zones based upon adaptations of the volume sensors to maintain different volumes of the process fluid in the respective zones.

14. (Original) The system of claim 13, wherein the plurality of temperature controllers are positioned such that the at least three different zones are arranged in ascending order based upon their respective temperature ranges, and wherein the zone comprising the chamber has the highest temperature range.

15. (Original) The system of claim 13, wherein the plurality of temperature controllers are positioned such that the at least three different zones are arranged in descending order based upon their respective temperature ranges, and wherein the zone comprising the chamber has the lowest temperature range.

16. (Original) The system of claim 13, wherein one of the plurality of temperature controllers is arranged within the chamber.

17. (Previously Presented) The system of claim 13, wherein one of the plurality of temperature controllers is coupled to the fluid inlet.

18. (Previously Presented) The system of claim 13, wherein one of the plurality of temperature controllers is coupled to one of a plurality of pipes configured to transport the process fluid from the plurality of tanks to the chamber.

19. (Original) The system of claim 13, wherein one of the plurality of temperature controllers is arranged within one of the plurality of tanks.

20. (Original) The system of claim 13, wherein at least one of the plurality of temperature controllers comprises an infrared heater.

21. – 24. (Canceled)

25. (New) The system of claim 13, wherein at least two of the plurality of tanks comprise different volume capacities relative to each other and relative to the chamber, and wherein the at least two tanks are arranged within different zones.

26. (New) The system of claim 25, further comprising a plurality of pipes configured to transport the process fluid from the plurality of tanks to the chamber, wherein one tank of the at least two tanks is closer in proximity to the chamber with respect to the transport of the process fluid along the plurality of pipes than another tank of the at least two tanks, and wherein the one tank comprises a larger volume capacity than the chamber and a smaller volume capacity than the other tank of the at least two tanks.

27. (New) A system, comprising:

a chamber configured to process one or more wafers for the fabrication of microelectronic devices;

a first set of one or more temperature controllers configured to maintain a process fluid supplied to the chamber to treat the wafers within a first temperature range;

a storage tank configured to hold the process fluid;

an intermediate tank interposed between the chamber and the storage tank, wherein the intermediate tank is configured to store the process fluid;

a second set of one or more temperature controllers configured to maintain the process fluid within the intermediate tank within a second temperature range distinct from the first temperature range;

a first set of pipes configured to transport the process fluid from the storage tank to the intermediate tank;

a second set of pipes configured to transport the process fluid from the intermediate tank to the chamber; and

a third set of pipes configured to transport the process fluid from the chamber directly to the intermediate tank.

28. (New) The system of claim 27, further comprising a third set of one or more temperature controllers configured to maintain the process fluid within the storage tank within a third temperature range distinct from the first and second temperature ranges, wherein the minimum temperature of the third temperature range is greater than an ambient temperature of an environment surrounding the storage tank.

29. (New) The system of claim 27, wherein the first temperature range is higher than the second temperature range.

30. (New) The system of claim 27, wherein the second temperature range is higher than the third temperature range.

31. (New) The system of claim 27, wherein the first temperature range is lower than the second temperature range, and wherein the second temperature range is lower than the third temperature range.

32. (New) The system of claim 27, further comprising volume sensors respectively configured to maintain different volumes of the process fluid within the intermediate tank and the chamber during operation of the system.